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An attempt to learn what relationships exist between entrance test performance and grades subsequently earned and, further, to determine whether prediction could be improved through combining test scores.

Results showed that all tests included in the entrance battery are significantly related to cumulative grade-point averages of freshmen and seniors. Performance on the Cooperative English Test was found to be the most effective single predictor except in the College of Arts and Sciences where the total score of the American Council of Education Psychological Examination (1948 edition) was the most predictive of cumulative grade-point average. It was also found that appropriate weighting of various tests in the battery could improve prediction.

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8103

THE PREDICTIVE EFFICIENCY OF THE MIAMI UNIVERSITY FRESHMAN TEST BATTERY

Institutional Research Service
April, 1960

INTRODUCTION

A battery of psychological and achievement tests has been administered to Miami University freshmen for more than a decade. The purpose of these tests is to assess achievement in the tool skills (language and mathematics) and to determine aptitude for college level work. These test results are used for counseling purposes. In addition, the tests provide us with valuable data relative to the ability and achievement levels of each freshman class. (IRS Report No. 1, issued last October, was devoted to a discussion of this matter.)

Purpose of This Report.

Although the tests included in the freshman battery satisfy the minimal standards of validity and reliability, no information relative to their value for predicting scholastic performance at Miami University has been accumulated recently. This Report summarizes the results of analyses of the relationship between performance on the entrance tests and the cumulative grade-point averages subsequently earned by Miami University freshmen and seniors. Two specific questions are dealt with:

(1) How strong is the relationship between entrance test scores and the grades subsequently earned in courses at Miami University?

(2) Can the prediction of scholastic performance be improved through a more refined use of entrance test scores?

The significance of question two is somewhat remote, since it bears upon the issue of selective admission predicated, at least in part, upon the results of psychological testing.

THE TEST BATTERY

ACE

The American Council on Education Psychological Examination (1948 edition) purports to measure academic potential. Thus, it comes closest to what is ordinarily thought of as a "general intelligence" test.

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A student's score on the ACE tells us something about his capability for academic performance.

This test yields three scores:

1. ACE Total - an overall appraisal of scholastic aptitude.
2. ACE Linguistic - a measure of ability to handle verbal concepts.
3. ACE Quantitative - a measure of ability to handle non-verbal (primarily arithmetic and spatial) concepts.

English Achievement.

The Cooperative English Test (Form Y) purports to measure proficiency or current knowledge in the verbal area. Scores on this test reveal how much a student has learned about communication and reading skills during the years prior to his enrollment as a freshman. Thus, it measures the effectiveness with which a student has utilized the kind of ability measured by the ACE Linguistic subtest.

The English Achievement test yields four primary scores:

1. Total English - a composite of all of the subscores on this test.
2. Mechanics - a knowledge of grammar, punctuation, capitalization and spelling.
3. Effectiveness - knowledge of good usage, diction and arrangement.
4. Reading - an indication of reading speed and comprehension based upon the following three subscales (each of which also yields a score):

    a. Vocabulary - knowledge about word meanings.
    b. Reading Speed - rapidity of reading and comprehension.
    c. Reading Level - a measure of reading efficiency at the speed set in the "Speed" subscale.

Mathematics Achievement.

The mathematics section of the Cooperative General Achievement Test (Form P) again reflects current knowledge or proficiency. This test yields a single score based upon knowledge of arithmetic (weighted 2/5ths), algebra (1/5th), geometry (1/5th), and higher mathematics (1/5th).

STUDENTS INCLUDED IN THE SAMPLE

The samples studied consisted of 405 freshmen and 792 seniors at Miami University. The freshman group was approximately a twenty percent randomly drawn sample of all freshmen enrolled during the year 1958-1959. The senior group contained all persons who had completed eight semesters in June, 1959, and for whom a full set of entrance test scores was available.

The seniors were divided according to Division for the purposes of analysis. The number of students within each Division was as follows:

Division	No. of Students
Arts and Science	254
Business	235
Education	250
Fine Arts	53

Curricula during the first year are relatively standard. Hence, there appeared to be no advantage to making comparisons by Division at the freshman level.

PROCEDURES

The strength of the relationship between cumulative grade-point and test performance was determined by calculating coefficients of correlation. This technique provided a useful first level of analysis, since it indicated the predictive efficiency of each of the tests in the battery.

It became apparent, however, that student achievement in some of the Divisions could be predicted more efficiently by combining certain of the tests into composite or multiple predictors. The procedure utilized for this purpose was multiple correlation which enables us to take advantage of the unique properties of each test as a predictor of cumulative grade-point average.

By way of illustration, the Cooperative English Test was often found to predict cumulative grade-point average at a high level. However, performance on the Cooperative Mathematics Test also had some predictive value, which, when combined with English test performance, yielded a greater level of predictive efficiency than that obtained from the use of either test alone. At the same time, the ACE scores occasionally made no contribution to predicting grade-point beyond that made by the English and Math tests. The ACE was not included in the predictive battery under such circumstances.

It was anticipated that the predictive value of combinations of test scores would vary from one Division to another. The fact that the data supported this expectation suggests that differential consideration ought to be given to test scores as a function of the Division in which the students are enrolled. Data which bear on this point are discussed in the sections following.

RESULTS FOR FRESHMEN

Scatterplot of English Test Scores and Cumulative Grade-Point Averages.

The scatterplot is a convenient scheme for indicating the degree of relationship between two sets of measures. The relationship between cumulative grade-point average for freshmen and scores obtained on the Cooperative English Test is shown in Table 1.

An entry in this Table indicates the number of students within a given percentile range on the English test who achieved a given cumulative grade-point average. The ten students, for example, whose Cooperative English Test scores fell within the 34th to 49th percentile range obtained cumulative grade-point averages between 2.00 and 2.09, and the seven students whose scores were within the 50th to 62nd percentile range earned first year cumulative grade-point averages between 2.20 and 2.29.

The median cumulative grade-point averages earned by students within given percentile ranges are represented in the scatterplot by asterisks. Thus, the six students whose English test scores fell within the 3rd to 6th percentile range earned a median cumulative grade-point average of approximately 1.30, whereas those students whose English test scores fell within the 24th to 34th percentiles earned a median grade-point average of approximately 2.00.

Two factors worthy of note are suggested by the data presented in Table 1. First, the median grade-point average tends to increase consistently with increased test scores. This means, of course, that the English test is a useful predictor of freshman grade-point average. The second outstanding feature about the data in this Table is that there is some overlapping within each of the percentile ranges. This indicates that while the predominant trend is for high scores to be associated with high cumulative grade-point averages, there are some students who earned either higher or lower cumulative grade-point averages than one would predict on the basis of their English test scores.

This kind of inconsistency between predictor and criterion performance in individual instances is a very typical situation. Even the

best predictive measures will yield a certain amount of error in individual cases. This error is probably magnified for our students because they do not take the freshman tests under optimal motivational conditions. They know that their admission to the University is independent of their performance on these tests.

The predominant trend for freshman students having higher English test scores to achieve higher grade-point averages is, however, clearcut. Suppose, for example, that we define a "satisfactory" grade-point average as 2.00 or higher. Table 1 indicates that 63% of our freshmen earned satisfactory grade-points and 37% earned a grade-point average that was unsatisfactory.

Figure 1 shows what would have happened if the English test had been used as a selective device. This Figure contains graphs of the English test performance of students who eventually earned grade-point averages above and below 2.00 at the end of their freshman year. Examination of these graphs indicates that if we had required our freshmen to score at or above the 50th percentile on the English test in order to be admitted, we would have had a freshman class wherein 74% of our students would have earned satisfactory grade-points and only 26% would have earned unsatisfactory grade-point averages. This considerable improvement in the performance of our freshman class would, however, have entailed quite a sacrifice. We would have denied admission to a large number of students who would have earned a satisfactory grade-point average.

The optimal "cutting score" for the English test would have been at the 13th percentile. If we had accepted only those students who earned scores at or above this level, 67% of our freshmen would have earned satisfactory grade-point averages. The importance of this apparently slight improvement in the percentage of the freshman class earning a satisfactory grade-point (67% selecting on the basis of English test performance versus 63% for the unselected freshman group) should not be minimized. Four percent of our freshman class is, in round numbers, approximately 80 students. The data for the 1958-1959 freshman class indicate that if the English test were used as a selection device, with a cut-off at the 13th percentile, we would have rejected about 80 students, none of whom earned a cumulative grade-point at or above 2.00 at the end of their freshman year.

Table 1

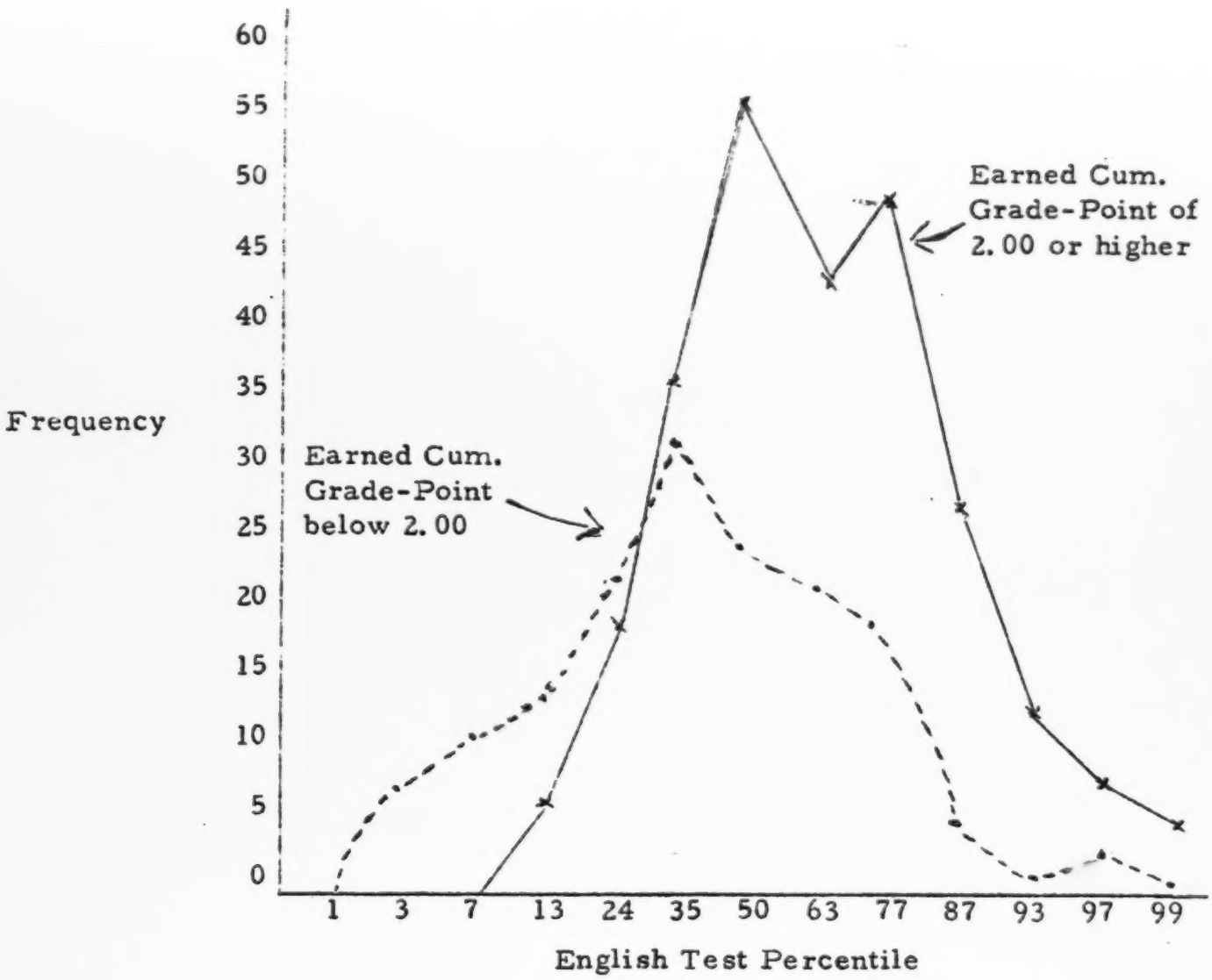
Scatterplot of the Relationship Between Cooperative English Test Score and Freshman Cumulative Grade-Point Average

Cumulative Grade-Point Average	1	3	7	13	24	35	50	63	77	87	93	96	99
4.00									1				1
3.90													1
3.80													
3.70								1		2		1	
3.60										1	1		
3.50									2				1
3.40							1	1	3		2	1	*
3.30							3	2	2		1	2	
3.20								1	5		1	1*	1
3.10							1	2		5			1
3.00						2	4	2	3	3	3*		
2.90					1		2	2	4	1	2	1	
2.80					1		2	6	3	1	1		
2.70					2	1	4	2	2	2*			
2.60					3	5	5	4	3	3	2	1	
2.50						3	5	4	6*	2			
2.40					1	4	4		5	2			
2.30					2	3	7	7*	3				
2.20				1	4	5	7*	4	3	3			
2.10					1	2	7	3	4				
2.00				4	3	10*	3	1		1			
1.90			1		3*	5	3	3	5			1	
1.80			1	2	7	4	4	2	1				
1.70		1		1	2	3	3	5	1	1	1		
1.60					5	3	3	5	3			1	
1.50		1	1	3*	1	6	3	2	3				
1.40		1	2*	2		3	3	1	1	1			1
1.30		*	1	2		4	1		2	1			
1.20		1	1	1	2	1	2	1	1				
1.10				1	1	1	1	2					
1.00			1										
.90		1	1										
.80			1										
.70							1			1			
.60													
.50						1							
.40		1											

Cooperative English Test Percentiles

Figure 1

Distributions of English Test Scores Earned by Freshmen Who Subsequently Earned Satisfactory and Unsatisfactory Cumulative Grade-Point Averages



The Relationship Between the Math Test and Grade-Point Average.

The scatterplot for mathematics test scores and cumulative grade-point average (freshmen) is shown in Table 2. It is apparent that the mathematics test does not correlate with grade-point as highly as did the English test.

Graphs of mathematics test scores earned by students who subsequently earned grade-point averages above and below 2.00 at the end of their freshman year are shown in Figure 2. If the mathematics test had been used alone as a selective instrument with a cutting score at the 38th percentile, we would have rejected about 13% of our applicants. About two-thirds of those rejected would have earned unsatisfactory grade-point averages and about one-third of those rejected would, if admitted, have earned a grade-point average of 2.00 or higher.

This 2 for 1 ratio among rejectees is not bad from a statistical standpoint. It is, however, unsatisfactory when we consider that in order to eliminate about 175 freshmen who would have earned low grade-points, we would have also had to reject almost 100 who would have earned satisfactory grade-points.

Thus, although the mathematics test has potential as a selection device when used in combination with other instruments, it cannot be considered as a satisfactory predictor of performance when used alone.

Table 2

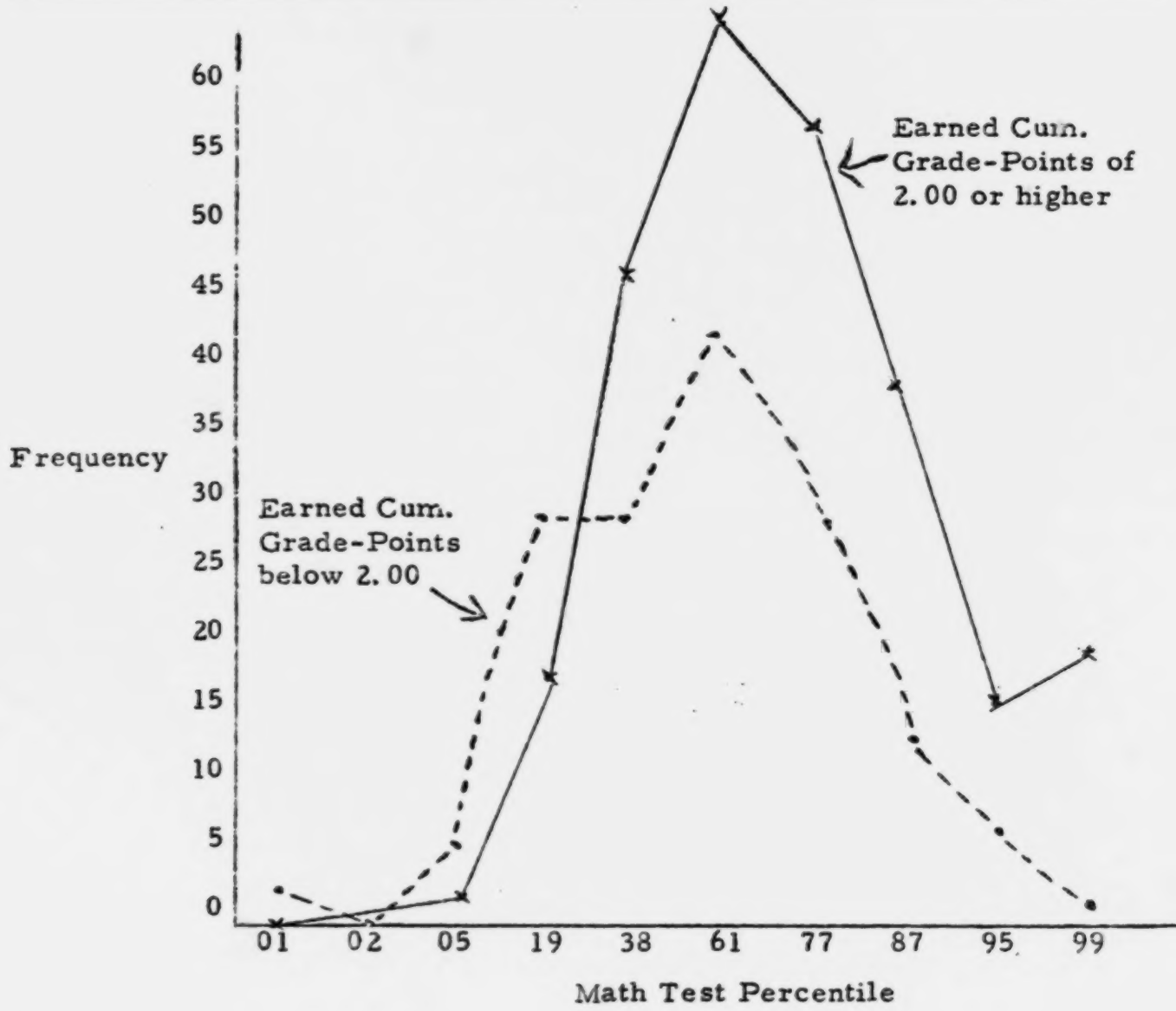
Scatterplot of the Relationship Between Cooperative Mathematics Test Score and Freshman Cumulative Grade-Point Average

Cumulative Grade-Point Average	01	02	05	19	38	61	77	87	95	99
4.00						1		1		
3.90										1
3.80										
3.70					1	1				2
3.60							1	1		
3.50						1	1	1		
3.40					1		1	5	1	
3.30					2	2	2	1	1	2
3.20					1	2	2	1	2	1
3.10					1	1	4	1	1	1
3.00				1	2	4	4	2	1	2
2.90				2	4	1	4	2		
2.80				1		4	2	3	1	3*
2.70					4	5	2	1	1	
2.60			1	1	3	7	6	5	1	2
2.50				2	3	5	5	2*	1	2
2.40					4	4	3	3*	*	2
2.30				1	5	9	4	3		
2.20		1		4	9*	4	4*	3	2	
2.10				2	3	5*	6	1		1
2.00			1	3	3	7	4	2	2	
1.90				4	4	3	6	2	2	
1.80				1	6	7	6	1		
1.70				3*	2	8	3	2		
1.60				4	3	4	6	2	1	1
1.50			3*	5	3	4	2	1	2	
1.40			1	4	3	4	1	1	1	
1.30				2	1	5	2	1		
1.20				1	3	4	1	1		
1.10	1			2	1			2		
1.00				1						
.90					2					
.80	*					1				
.70						1	1			
.60										
.50				1						
.40	1									

Cooperative Mathematics Test Percentiles

Figure 2

Distributions of Mathematics Test Scores Earned by Freshmen Who Subsequently Earned Satisfactory and Unsatisfactory Grade-Point Averages



The Relationship Between the ACE and Grade-Point Average.

The scatterplot for ACE total score and grade-point average (freshmen) is shown in Table 3. Graphs of the ACE scores earned by students who subsequently earned grade-point averages above and below 2.00 are shown in Figure 3.

It is readily apparent that the ACE is a better predictor of cumulative grade-point than the math test, but not as good a predictor as the English test. The optimal cut-off score of the ACE would have been the 38th percentile. This cut would have led us to reject about 10% of our applicants for admission. Seventy-eight percent of those rejected would have earned an unsatisfactory grade-point average; twenty-two percent would have earned a satisfactory grade-point average. The percentage of admitted students who performed satisfactorily would have improved from 63% in the unselected population to 69% in the population selected on the basis of this ACE cut-off score.

Figure 3

Distributions of ACE Total Scores Earned by Freshmen Who Subsequently Earned Satisfactory and Unsatisfactory Grade-Point Averages

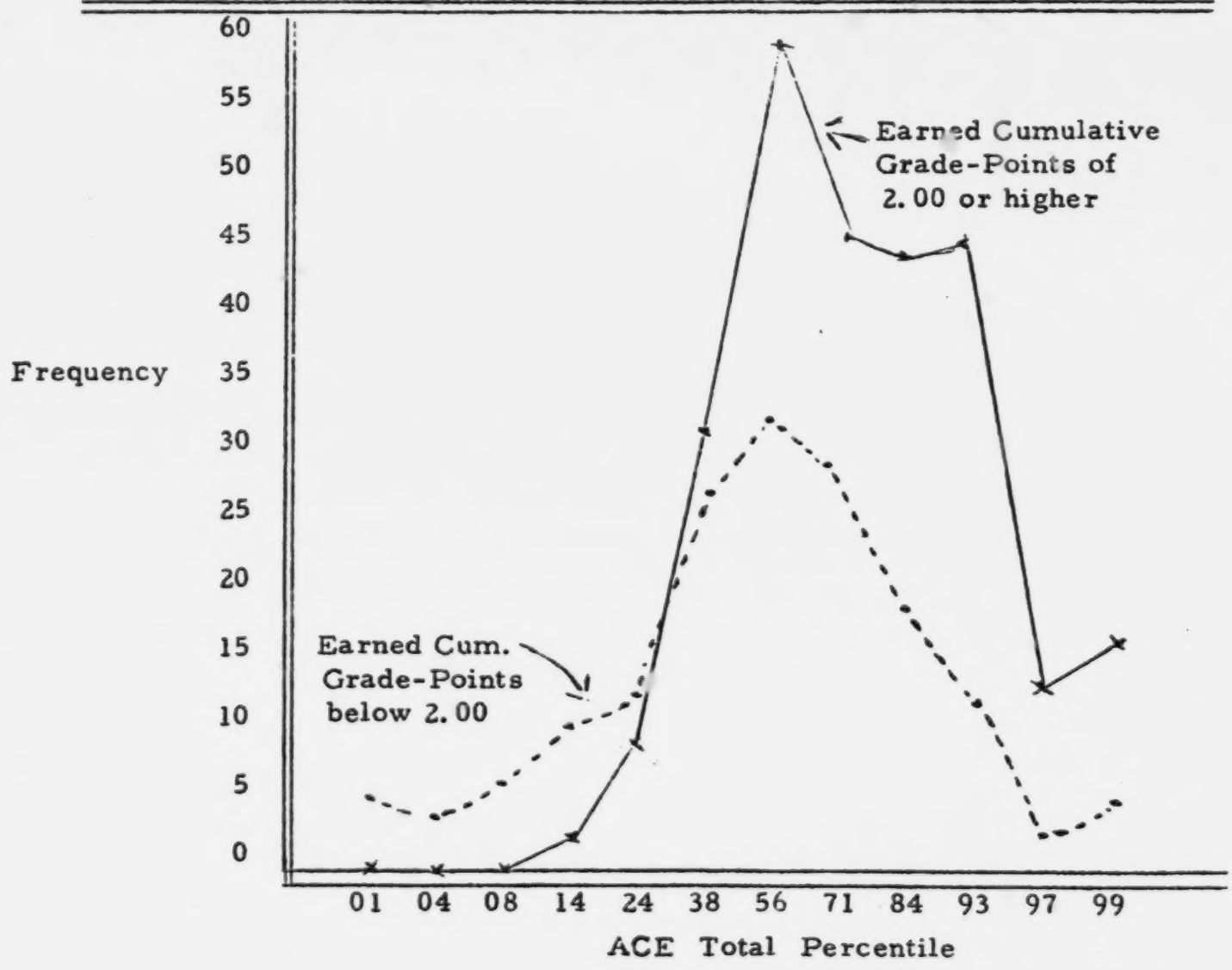


Table 3

Scatterplot of the Relationship Between Total ACE Score and Freshman Cumulative Grade-Point Average

Cumulative Grade-Point Average	01	04	08	14	24	38	56	71	84	93	97	99
4.00									2			
3.90												1
3.80												
3.70								1	1			2
3.60										1		1
3.50							1			2		
3.40							3		2	1	1	1
3.30							1	1	2	4		2
3.20							3		1	1	2	2
3.10						1		3	2	4	1	3*
3.00						3	2	3	2	4	1	1
2.90						1	1	3	3	3	1	1
2.80							2	3	4	3	2*	
2.70						2	4	1	3	3		
2.60					3		5	5	4	6*	1	1
2.50					1	3	5	2	7*	1		1
2.40						5	2	4		4	1	
2.30						1	10	6	4	1		
2.20				1	1	8	6*	6*	2	3		
2.10					1	3	6	4	2		1	1
2.00					1	1	4*	7	3	2	3	1	
1.90				1		2*	2	4	6	2	5		1
1.80					4*	1	2	7	5	2			
1.70						2	4	3	4	1	3		1
1.60				1		2	4	6	2	3	2		1
1.50		1	2*	2*	1	1	4	2	2	3		2	
1.40		1			2	1	2	3	4		1		1
1.30		*		1	1		1	2	1	3	1		
1.20		1			1	1	4	1	1	1			
1.10			1				1	2	1	1	1		
1.00								1					
.90						1	1						
.80							1						
.70									1	1			
.60													
.50								1					
.40		1											

Total ACE Percentile

Statistical Summary of Results for Freshmen.

The scattergrams discussed in the foregoing sections are summarized statistically by the correlation coefficients cited below:

English test	vs.	grade-point	r = .59
ACE	vs.	grade-point	r = .45
Math test	vs.	grade-point	r = .35

The shrunken multiple correlations indicating the predictive efficiency of combinations of these tests are as follows:

English test alone	vs.	grade-point	r = .59
English test + Math test	vs.	grade-point	r = .60
English test+Math test+ACE	vs.	grade-point	r = .60

Thus, the English test taken alone as a predictive device would have about the same predictive efficiency as this test in combination with either or both of the others. Selection on the basis of English test scores with a cut-off at the 13 percentile would have enabled us to reject about 80 members of the freshman class, all of whom earned unsatisfactory grade-point averages subsequent to their admission.

A more rigorous cut-off on this test would have enabled us to increase the proportion of freshmen who earned satisfactory grade -point averages still further, but this would have entailed some sacrifice because we would have denied admission to some students who would have earned satisfactory grade-point averages. If, for example, we had required freshmen to score at or above the 50th percentile on the English test in order to be admitted, we would have had a freshman class wherein 74% of the students earned grade-point averages above 2.00, compared with the 63% earning such grade-points in the unselected freshman population.

RESULTS FOR SENIORS

The correlations between entrance test scores and cumulative grade-point average after four years tend, in general, to be of lesser magnitude than those obtained for freshmen. This finding was anticipated because of the fact that seniors, as a group, are more homogeneous in ability than are freshmen. In addition, differential curricular and specialized requirements within each of the Divisions of the University act to reduce the efficiency of prediction for seniors when considered as a group.

The sections which follow summarize the correlations obtained for the entire group of seniors and for subgroups by Division.

All Seniors.

Scatterplots of the relationship between scores on the three admissions tests and the cumulative grade-point averages of 792 seniors are shown in Tables 4 through 6. The relationships between cumulative grade-point and scores earned on the three tests in the battery are shown in Tables 4-6.

Table 4

Scatterplot of the Relationship Between Cooperative English Test Score and Senior Cumulative Grade-Point Average

Cum. Gr-Pt Aver.	01	03	07	13	24	35	50	63	77	87	93	96	99
3.90								1	1				
3.80					1			2	1	2	1	2	
3.70								1	2		2		
3.60							1	1	1	2		2	
3.50				1		2	2	1	5	1		2	
3.40				1	1	1	5	6	6	4	3	*	
3.30					4	4	6	1	4	3	3	1	1
3.20			2	1	3	3	5	2	3	3		3	
3.10			1	1	2	3	5	7	5	3*	2*		*
3.00		1	1	1	1	2	9	3	9	3	3		
2.90			1	1	3	7	18	6	4*	5	1		1
2.80	1		2	3	7	7	10	9	8	2			
2.70		1	6	5	8	8	9	3*	7	3	1		
2.60	1	1	2	9	11	8	15*	12	3	2	2	1	
2.50	2	5	4	12	10	8*	15	8	7	1	2	1	
2.40	2	4	8*	7	15*	9	8	6	5	1	1		
2.30		4	8	13*	17	12	7	3	2	1	1		
2.20	2	8*	1	8	12	10	6	6					
2.10	5*	6	6	12	12	10	10	3	5				
2.00	2	3	5	8	14	5	8	1		1			
1.90	1	3	2	2	3	3	3		1				
1.80		2		1	2	1		1					
1.70	2		1										

Cooperative English Test Percentile

Table 5

Scatterplot of the Relationship Between Cooperative Mathematics Test Scores and Senior Cumulative Grade-Point Average

Cumulative Grade-Point Average	01	02	05	19	38	61	77	87	95	99
3.90				1		1				
3.80			1	3		1	3	3		
3.70						2		3		
3.60	1	1	1		1	2	1			1
3.50	1	1		2	4	1	1	3	1	
3.40				4	2	8	6	3	2	1
3.30	2			6	5	4	6	3		1*
3.20		1	3	4	3	4	4	3	3	
3.10	2		1	3	8	4	5	5		1
3.00	1	1	2	6	5	2	6	4	3	
2.90	1	2	1	6	7	15	4	5*	3*	
2.80	1	1	6	10	10	11	7	2		
2.70	2	3	14	12	10	6	3			
2.60	3	2	8	18	9	10*	8*	4	3	
2.50	5*	4*	5*	14	17*	13	6	6	2	
2.40	4	5	7	21*	9	11	4	2	1	
2.30	3	2	10	15	11	11	9	4	2	
2.20	2	3	4	18	15	7	7	2	1	
2.10		4	7	18	20	8	6	3		1
2.00	1		3	17	10	6	6	2		
1.90	1		2	5		4	4		1	
1.80		1		2	1	2				
1.70			2		1					

Cooperative Mathematics Test Percentiles

Table 6

Scatterplot of the Relationship Between Total ACE Score and Senior Cumulative Grade-Point Average

Cumulative Grade-Point Average	01	04	08	14	24	38	56	71	84	93	97	99
4.00												1
3.90							1	1				
3.80							1	2	1	4	2	
3.70									3	2		
3.60								1		5	1	
3.50				1		1	2	2	5	2	2	
3.40					1	2	6	1	8	4	4	
3.30				1	1	1	5	6	6	5	3	
3.20				2	3	4	2	3	7	3	3	
3.10			1	1	1	1	10	5	7	1	2*	
3.00				1	3	4	6	5	6	6	2	
2.90				2	3	5	9	5	12	8*	3	
2.80			4	2	3	5	15	6	9*	4	2	
2.70		1		2	7	12	11	9	5	3	1	
2.60			2	3	9	15	9*	13*	6	8	1	1*
2.50		1	4	8	5	11	11	20	8	5	2	
2.40		1	2	6	7*	15*	15	9	8	1	1	
2.30	1	1*	5*	4*	11	12	14	14	3	2	3	
2.20		1	5	5	10	11	14	4	6			
2.10			6	12	4	14	13	8	9	2	1	
2.00	1*		2	6	9	11	6	9	2			
1.90	1	2	1	1	6	2	3		1	1		
1.80			1		3	1			1			
1.70			1	2								
1.60											1	

Total ACE Percentiles

The scattergrams for seniors yield the following set of correlation coefficients:

English test	vs.	grade-point	.46
Math test	vs.	grade-point	.42
ACE	vs.	grade-point	.42

The shrunken multiple correlations indicating the predictive efficiency of combinations of these tests are:

English test + Math test	.51
English test + Math test + ACE	.52

Thus, the combination of English plus Mathematics test scores optimizes predictive efficiency. The English test would be weighted more heavily in this combination.

Correlations for Subgroups of Seniors by Division.

The Cooperative English Test was found to be the most efficient predictor of senior cumulative grade-point average in three Divisions of the University (Business, Education and Fine Arts). The ACE total score was found to relate most highly with cumulative grade-point average for seniors in the College of Arts and Science, however. All of the obtained correlations are summarized in Table 7.

Table 7
Correlations Between Entrance Test Scores and Senior Cumulative Grade-Point Average for each University Division

Division	TEST Coop. Eng.	Coop. Math	ACE
Arts & Science	.227	.194	.391
Business	.450	.175	.240
Education	.623	.571	.485
Fine Arts	.495	.113*	.274

*This correlation is not statistically significant ($> .05$).

The shrunken multiple correlations computed for each Division are summarized in Table 8.

Table 8

Shrunken Multiple Correlations for Subgroups of Seniors by Division

Division	Variables			Correlation	Most Effective Predictors
Arts & Science	ACE	vs.	grade-point	.39	ACE
	ACE + English	vs.	grade-point	.39	
	ACE + Eng. + Math	vs.	grade-point	.39	
Education	English	vs.	grade-point	.62	English
	English + Math	vs.	grade-point	.68	and
	Eng. + Math + ACE	vs.	grade-point	.69	Math
Business	English	vs.	grade-point	.45	English
	English + ACE	vs.	grade-point	.49	and
	Eng. + ACE + Math	vs.	grade-point	.50	ACE
Fine Arts	English	vs.	grade-point	.48	English
	English + ACE	vs.	grade-point	.50	and
	Eng. + ACE + Math	vs.	grade-point	.50	ACE

It is apparent from Table 8 that the functions measured by the ACE are quite generally more predictive for senior than for freshman students.

Maximum prediction of cumulative grade-point average for seniors in the Schools of Business and Fine Arts is achieved by weighted combinations of English and ACE scores. A single test (ACE) yields the best results in predicting performance in the College of Arts and Science, whereas weighted combinations of the Cooperative English and Cooperative Mathematics subtests are necessary to achieve maximal prediction of the cumulative grade-point average of seniors in the College of Education.

SUMMARY

Two questions were raised in this research report: (1) What relationships exist between entrance test performance and grades subsequently earned in courses at Miami University?; (2) Can the prediction of grade-point performance be improved through the use of combinations of test scores?

The results of analyses indicated that all tests included in the entrance battery are significantly related to e cumulative grade-point averages earned by Miami University freshm n and seniors. Students who achieve high test scores may be generally expected to earn high grade-point averages, whereas students obtaining low test scores most often earn low cumulative grade-point averages.

Performance on the Cooperative English Test, a measure of the effectiveness of students' reading and verbal communication skills, was found to be the best single predictive measure of overall freshman and senior cumulative grade-point averages, as well as of the cumulative grade-point averages of seniors in each University Division. The one exception to this generalization is to be found in the College of Arts and Science, wherein Total ACE score was found to be most predictive of cumulative grade-point average.

Further analysis of the data indicated that the prediction of a student's cumulative grade-point average at Miami could be improved in many instances through appropriate weighting of the various tests included in the entrance battery. The specific weights necessary to optimize the prediction of scholastic success are not included in this Report because there is presently no provision for a program of selective admissions.

POSTSCRIPT

The present Report focuses upon two conclusions:

(1) It would be possible, on the basis of our freshman test battery, to select students for admission to Miami University in such a way that the ratio of successful to unsuccessful students would be increased substantially.

(2) It should be apparent, however, that psychological tests are not infallible predictors. Selection of students on this basis alone would undoubtedly lead to the rejection of some persons who would have earned a satisfactory grade-point average if they had been admitted.

The fallibility of tests for predictive purposes merits some further discussion because this fact underlies much of the objection to use of selection procedures in state-supported institutions. There are these points to consider:

(a) Our data are predicated upon the use of tests administered for counseling rather than for selective purposes. The motivational level of the students taking these tests is somewhat different from that of

applicants for admission. The effect of this is to reduce the predictive efficiency of our battery.

(b) It would be foolhardy to suggest that students be selected on the basis of test scores alone. Their record of past performance (particularly the last two years in high school) when combined with performance on an admissions battery would provide a much more efficient basis for selection than would their performance on either type of predictor alone.

It is not the purpose of this Report to engage in a discussion of the strengths and weaknesses of a policy of selective admissions. There are valid arguments both in favor of, and in opposition to, such a policy in state-supported institutions. It is doubtful, however, that we perform any real service when we admit students for whom academic failure is a virtual certainty. The freshman who has a record of poor performance in high school, combined with low ability as measured by tests, is most unlikely to be a "late bloomer." We may do him a real disservice if we do not discourage his admission.